



# Oregon

Kate Brown, Governor

Department of Environmental Quality

Northwest Region

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October 1, 2015

Also Sent Via Email

Mike Wray  
Facilities Manager  
NW Pipe Company  
12005 North Burgard  
Portland, Oregon 97203

RE: Revision of 8/31/2015 DEQ Comments for *Remedial Investigation and Source Control Evaluation (SCE)*, March 2015, NW Pipe Company Site  
ECSI #138

Dear Mr. Wray:

The Department of Environmental Quality (DEQ) participated in a conference call with Ken Shump and Stephanie Heldt-Sheller on September 17, 2015. The DEQ August 31<sup>st</sup> comments for the March 2015 *Remedial Investigation and Source Control Evaluation* report were discussed. This letter provides clarifications to DEQ's August 31<sup>st</sup> comments for the SCE.

Comments that require clarification are identified in Stephanie Heldt-Sheller's September 24<sup>th</sup> conference call summary (attached). General Comment clarifications are discussed and resolved as shown in the conference call summary. The original DEQ August 31, 2015 comments are followed, where necessary, by our clarifications in italics. All August 31<sup>st</sup> DEQ comments, that did not require clarification, are included.

### General Comments

DEQ requests that NWP address the screening of all constituents of interest and issues discussed in our letter and the EPA Letter. DEQ concurs with all the concerns identified in the EPA Letter. Please consider them to be DEQ's comments.

The SCE presents a conclusion that there is not a risk from chemicals in groundwater. Groundwater concentrations near the IT slip exceed ambient water quality criteria for PCE and vinyl chloride, indicating a potential risk from consumption of water and organisms exposed to water in the Slip 1 of Terminal 4 and a potential impairment of the beneficial use of groundwater.

The report combines screening and reporting elements for both SCE and upland risk which results in a confusing narrative. DEQ requests that these issues be separated in future reports. The specific details of this and other concerns are presented below and in the EPA Letter.

## Specific Comments

### 1. Page ES-3, Expanded Risk Assessment for Chlorinated Solvents in Groundwater

The conclusion presented in the Executive Summary is that there is no risk from chemicals in groundwater. Groundwater concentrations near the IT slip exceed ambient water quality criteria for PCE and vinyl chloride, indicating a potential risk from consumption of water and organisms exposed to water in the slip. This observation is repeated in the EPA letter. Please address this concern.

### 2. Section 6.2.10 Ecology

The statement that in the IT Slip, “ecological habitat is neither fostered nor encouraged” may be correct, but it is misleading. The slip is favored by fish species such as small mouth bass and crappie, regardless of whether the slip was intended to be habitat. Please clarify by adding the following statements: “Some fish, such as smallmouth bass, are attracted to in-water structures, and are therefore likely to be attracted to the slip. Also, fish may use slips as refuges and resting areas away from the main channel of the river.”

### 3. Section 6.3.1.3 Offsite Recreational User Scenario

The statement that the T4 and IT slips “are not intended to be used, nor are they much used, for fishing” is not factual. The intent may be to not have fishing in the slips, but DEQ has frequently observed fishing in these areas. In addition, a local fishing club indicated that because the slips are attractive to some species and they are good areas to fish. Please remove the statement.

### 4. Section 6.2.1.4 Offsite Drinking Water Scenario

#### Section 6.2.12.4 Offsite Drinking Water Scenario

The report presents a line of evidence that use of water from the Willamette River is a “remote possibility”. While, DEQ may agree with NW Pipe on the likely future use of this portion of the Willamette River for drinking water, EPA considers water from the Willamette as a potential drinking water source.

### Section 6.3.1.4 Conclusions for Human Health Risk Screening

#### Section 6.3.1.3 Human Health Risk Screening Results

Conclusions regarding risks from human exposure to zinc cannot be used as the basis for drawing ecological risk conclusions. Aquatic ecological screening levels for zinc are considerably lower than human health screening levels. Screening should be conducted for both human health and ecological receptors using the appropriate screening values. *The site maximum concentration should be compared with background UPL. This comment will also be addressed in pending No Further Action DEQ comments.*

### 5. Section 6.4.1.3 Exposure

Aquatic Water Quality Criteria are established using standard approaches that DEQ considers reasonable. The approach includes bioaccumulation into fish by consumption of benthic organisms that are more likely to be exposed to chemical concentrations in groundwater that have not been substantially diluted. It is not appropriate to consider this process as “uncertain”. This section requires significant rewriting to reflect the SCE screening process.

Chemical concentrations in the main channel of the river are not an issue to evaluate for SCE. Aquatic organisms will be exposed to concentrations in the slip because slips are good habitat for



many species, and fish find refuge in the slips from the main flow of the river and also feed closer to shore. EPA and DEQ do not conduct risk assessments assuming contact with water in the main channel of the river, and instead focus on areas where exposure is likely. Please remove the discussion of the main channel.

6. Section 7 Groundwater Pathway

The SCE determination that the groundwater pathway is incomplete is not supported by the investigation. Final DEQ source control decisions are based on a DEQ accepted SCE report and subject to EPA review/comment as required by the Portland Harbor Memorandum of Understanding. Please modify this section to reconsider the current SCE of the groundwater pathway.

7. Section 5-6 Stormwater System Investigation

Line abandonments were proposed but DEQ has not received information to support that the work occurred. Completion or documentation of the abandonments is needed to assure that recontamination is not likely and to support a source control decision. Please submit current information regarding line abandonments.

8. Section 8 Final Source Control Sampling and Evaluation

The statement that "stormwater is the only potentially complete pathway for constituents to reach the Willamette River from the Site" should be modified to include groundwater. Please correct this statement in this section and the rest of the SCE to reflect that the groundwater pathway is complete.

9. Table 5-2 Historical Groundwater Results

The historical groundwater sample results from 2001 through 2005 are tabulated but the data points are not included on site maps. Analytical results are presented in various units. All tabulated analytical data should be presented as the same units in screening values. Please correct table analytical units and missing data points on the maps and figures.

10. Tables 6-9 and 6-10

All Report Tables

Laboratory qualifiers should be explained. For example "=" is not defined.

The analytical values shown for PCE are not correct for well T4S1MW-10. Please correct.

*DEQ withdraws this comment*

11. Figure 5-7 Southeast Area Geoprobe and Monitoring Well Locations with PCE Concentrations

PCE and associated constituents should be presented in additional figures and screened against all SCE parameters.

12. Figure 6-6

The graphs presented in Figure 6-6 contained substantial errors. For instance the data plots assumed an end point of zero in place of the detection limit for a specific sample. The EPA letter addressed several other issues that require correction. Please reconstruct the graphs considering DEQ and EPA comments.

DEQ requests that you submit your responses to the comments. Please call me at (503) 229-5039, if you have questions regarding this letter.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jim Orr".

Jim Orr, R.G.  
Project Manager  
Northwest Region Cleanup Program

cc: Stephanie Heldt-Sheller, NWP (PDF and Mail Copy)  
Ken Shump, CH2MHILL (PDF and Mail Copy)  
Claudia Powers, Ater Wynne LLP (PDF and Mail Copy)  
Matt McClincy, DEQ (PDF Copy)  
Mike Poulsen, DEQ (PDF Copy)  
Alex Liverman, DEQ (PDF Copy)  
Ken Thiessen, DEQ (PDF Copy)  
Mike Romero, DEQ (PDF Copy)  
Eva DeMaria, EPA (PDF Copy)  
Sean Sheldrake, EPA (PDF Copy)  
ECSI File 138

Attachment: NW Pipe Phone Meeting Summary September 17, 2015  
EPA Comment Letter, April 29, 2015

SEP 24 2015

NORTHWEST REGION

September 17, 2015

**Re:** NWP Phone meeting with DEQ to get clarifications to 8/31/15 DEQ Comments to RI/SCE138  
Com  
NWP**Attendees:**

Steph Heldt-Sheller, NWP  
Jim Orr, DEQ  
Matt McClincy, DEQ  
Ken Shump, CH2M

**Openings comments:**

NWP requested clarification for General Comments 1 & 2, and Specific Comments 2, 4, & 10 in a previous email. Correction, NWP only requests clarification for Comments 1 & 2, and Specific Comments 4, & 10.

**First General Comment:**

NWP Team: Based on the way the comment was worded, NWP requested clarification if any Constituents of Interest (COIs) were missed in the RI/SCE report.

DEQ Team: No all COIs were there as expected, but the comment was because of how analytical results were screened. DEQ requests that NWP use most recently published screening levels. (DEQ referred to the July 29, 2015 PRGs)

**Second General Comment:**

NWP Team: The last sentence ends with a phrase "beneficial use of groundwater" These values don't relate to groundwater, but surface water. The exposure we are talking about doesn't occur in GW, but SW potentially. It would occur after GW discharges. If you look at the rules, precedence, policies, to conclude that the shallow water is a potential source of drinking water, seems inconsistent. Was that a typo? Should it have read "beneficial use of surface water?"

DEQ Team: That might be clearer. The groundwater numbers would be more accurate. There is also screening for the drinking water pathway, and the well water would be screened against drinking water exposure. The EPA considers the river a potential source of drinking water.

DEQ Team: Another way of saying it is there are other beneficial uses of groundwater, such as supporting surface water, so you compare the groundwater quality to surface water quality screening values. We don't disagree with the applicability of the criteria, but we do look at potential groundwater hot spots, and beneficial uses of groundwater for protecting surface water quality. In the DEQ's process, two reasons trigger a Feasibility Study (FS). One reason an FS is triggered is by risk of the site, and alternatives to manage/remove risk. Another reason an FS might be triggered is if there is a potential groundwater hot spot that would impair beneficial use of water. Concentrations in the wells adjacent to the Port Slip exceed surface water AWQC.

DEQ Team: To the DEQ, one of the "uses" of groundwater is to maintain surface water flow. If we were to go to surface water, we would look at groundwater and evaluate remediation measures to maintain the surface water quality.



NWP Team: In summary, what the comment is saying is that NWP groundwater levels exceed the ambient water quality criteria (AWQC) for surface water. To the DEQ, groundwater that exceeds AWQC for surface water constitutes a concern and a Hot Spot that needs to be dealt with in a FS or something. The confusion seems to go back to the word "use". DEQ looks at the word "use" as groundwater that passively discharges to surface water, supporting surface water. NWP views the word use as actual "use," like an organism up taking the water, or a human drinking the water. But it seems that we are actually saying the same thing, just in a different way.

DEQ Team: The DEQ doesn't perform Risk Assessments to Portland Harbor river receptors per se. What DEQ is doing, is a Source Control screening evaluation. Similar process as risk screening to river pathway. Surface water AWQC is relevant, as groundwater in certain upland wells exceed surface water AWQC. The DEQ has a unique process for Hot Spots, and groundwater Hot Spots are defined as exceedance of surface water AWQC when the aquifer discharges to surface water. Monitoring wells are not at the exposure point. And to clarify, the DEQ is not necessarily, at this point, asking for a Feasibility Study.

**Specific Comment 4(a)**

NWP Team: This comment refers to Section 6.2.1.4, but should it read 6.2.12.4? Could you confirm that is what you mean?

DEQ Team: We don't have a copy of the report at this moment. DEQ can confirm that and get back to NWP.

**Specific Comment 4(b)**

NWP Team: This comment refers to "6.3.1.4 Conclusion for the Human Health Risk Screening," but the body of the comment discusses drawing conclusions for the basis of ecological risk screening. Since this section is referring to human health risk screening, could this be a typo? Should this comment be referring to Section 6.3.2.4, Conclusions for Ecological Risk Assessment?" Also, the comment discusses conclusions about zinc-related risk, but NWP zinc results in groundwater are orders of magnitude less than the PRGs; there does not seem to be any issue, unless there is something specific DEQ can clarify? Is there a particular concern DEQ has about Zn?

DEQ Team: We will confirm which section should be referenced later, but regarding the content of the comment, DEQ was concerned about how the screening was performed. Should be done for both ecological and human health. NWP can't draw conclusions for human health and ecological screening. They are separate endpoint. It's more of an issue identifying using the proper screening levels for each pathway.

NWP Team: If you don't mind, please confirm the specific section, and what statement in the report triggered this comment. Otherwise we aren't sure how to write a response.

DEQ Team: OK

**Specific Comment 10**

NWP Team: This comment refers to tables 6-9 & 6-10, and has 2 requests. The first requests NWP explain laboratory qualifiers, such as the symbol "=". But the symbol "=" does not appear in either table 6-9 or 6-10.

DEQ Team: this comment refers to any laboratory qualifiers in any of the tables that are not defined.

DEQ would want all qualifiers defined.

NWP Team: OK

NWP Team: For the second part of Specific Comment 10, we think DEQ meant Table 6-8, as Table 6-9 & 6-10 don't deal with well T4S1MW-10. But in Table 6-8, we do not see incorrect values for the PCE at well T4S1MW-10. Table is consistent with the Port's table.

DWQ Team: The second part of that comment was about a figure that does not match the Port of Portland figure. DEQ will check again and define where the issue occurred.

NWP Team: We tend to use mg/l, but others might use ug/l, so it could be a units issue. We can make sure the report uses consistent units. Thank you for checking and getting back to us with the specific error you believe you identified.

**Scheduling:**

DEQ Team: If we provide these responses by early next week, when could NWP get a response back to DEQ?

NWP Team: We will need to caucus with the rest of the team once we get DEQ clarifications, and develop a schedule.







UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
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138  
working  
NWP

April 29, 2015

Mr. Jim Orr  
Oregon Department of Environmental Quality  
Northwest Region Office  
2020 SW 4<sup>th</sup> Avenue, Suite 400  
Portland, Oregon 97201

Dear Mr. Orr:

The Environmental Protection Agency has completed a review of the Remedial Investigation and Source Control Evaluation Report. For your consideration and use, we have enclosed the technical review comments prepared by the EPA's contractor CDM Smith.

The EPA's review has identified issues related to the overall completeness of the site assessment as well as concerns with the data evaluations/presentations provided in the report. The EPA and CDM Smith are available to meet with you at your convenience to discuss these review comments.

Please feel free to contact Sean Sheldrake at (206) 553-1220 or [sheldrake.sean@epa.gov](mailto:sheldrake.sean@epa.gov) with any questions that you might have on the EPA's review of the Remedial Investigation and Source Control Evaluation Report for the Northwest Pipe Company.

Sincerely,

A handwritten signature in black ink that reads "Rich Muza".

Rich Muza  
Remedial Project Manager

Enclosure

**Review Comments on Northwest Pipe Company  
Remedial Investigation & Source Control Evaluation  
12005 Burgard Road, Portland, Oregon**

**General Comments**

1. As stated in comments on the January 2014 Draft Final RI/SCE Report, additional groundwater monitoring data is needed to evaluate the groundwater pathway at the site. The data presentation in the RI/SCE indicates a southwest trending tetrachloroethene (PCE) plume extending from Southeast Area monitoring well MW5 to the Port of Portland Terminal 4 monitoring well T-4-MW-03S. In 2005, the PCE and vinyl chloride concentrations at monitoring well T-4-MW-03S were 14 and 5.4  $\mu\text{g/L}$ , respectively, exceeding the February 2015 Preliminary Remediation Goals (PRGs) that have been established for the Portland Harbor site (0.24 and 2  $\mu\text{g/L}$  for PCE and vinyl chloride, respectively) by up to 58 times. Monitoring well T-4-MW-03S is located less than 100 feet from the edge of Slip 1 and the PCE and vinyl chloride concentrations in surface water at Slip 1 have not been determined.

The RI/SCE concludes that the potential for groundwater to exceed protective standards is very low because groundwater data indicates that PCE and trichloroethene (TCE) concentrations are decreasing at the site. A new Figure 6-6 was added to the RI/SCE to present time versus PCE and TCE concentrations, which demonstrate trends in groundwater at the site. The time versus PCE and TCE concentration plots presented in Figure 6-6 incorrectly plot the last data point in the time series (i.e., August 2007) as 0  $\mu\text{g/L}$  for PCE and TCE concentrations at all monitoring wells. This is misleading and the trend plots should be corrected. The actual concentrations, based on data presented in Tables 5-2 and 5-12, show an increasing PCE trend at MW-05, with PCE concentrations increasing from 52  $\mu\text{g/L}$  in 2004 to 1,400  $\mu\text{g/L}$  in 2007. Concentrations at monitoring wells MW-03 and MW-04 also increased between 2005 and 2007. Data collected at the Terminal 4 monitoring well T4-MW-03S from April 2004 through May 2005 does not show a stable trend in PCE and vinyl chloride concentrations. Given the increasing trend at some of the monitoring wells in the Southeast Area, unstable concentration trends at monitoring well T4-MW-03S, and the lack of data more recent than 2007, additional groundwater monitoring should be performed to evaluate PCE and related VOC concentration trends and plume stability. Until contaminant concentration trends in groundwater are determined, the evaluation of the risk due to contaminated groundwater discharging to surface water is inconclusive.

2. The stormwater collection and treatment system at this site is critical for prevention of discharging stormwater with unacceptable levels of polyaromatic hydrocarbons (PAHs), polycyclic biphenyls (PCBs), and metals to Outfall 18/WR-123 and the Willamette River. To be protective, the system must have sufficient flow capacity and volume to handle significant storm events that are defined in Section 2.4.3 as a storm event of 0.83 inches of rainfall within 24-hours (criteria encompasses all storm events contributing 90 percent of the total annual runoff). Based on the information presented in Section 2.4.3 and Appendix D, the maximum capacity of the stormwater treatment system is 630 gallons per minute (gpm) and the total detention volume is 46,547 gallons. There is insufficient information presented to evaluate whether or not this capacity is adequate to handle stormwater runoff during the 0.83 inches of rainfall over a 24-hour storm event. The estimated runoff rate during the 0.83 inches rainfall event should be stated in the report and the runoff rate should be compared to the maximum capacity of the treatment system.
3. The Hydrologic and Hydraulic Model presented in Appendix D does not provide sufficient information to evaluate the performance of the collection system and piping. While the modeled hydraulic grade line for baseline conditions during 2-, 10-, and 25-year storm events and the location of collection components and pipe are provided, the hydraulic grade line for the regraded scenario is not provided. In addition, the runoff rates for the 2-, 10-, and 25-year storm events during the baseline and regraded scenarios are not provided. The report states that a 10-year storm event total flow rate equates to a flow rate of 43 cubic feet per second (19,200 gpm); however, this seems too high given rainfall rates in Portland and would



exceed the capacity of the stormwater treatment system (630 gpm). Documentation of the modeling results presented in Appendix D is required for EPA to assess the regraded scenario model.

4. The hydraulic evaluation for the treatment system used the 0.83 inches of rainfall over 24-hour (i.e., 90 percent of annual runoff) to estimate stormwater runoff and the hydraulic modeling for the collection and piping system used 2-, 10-, and 25-year storm events to estimate stormwater runoff. The report should explain why these different scenarios were used to estimate runoff to the collection and piping system and to the treatment system.
5. The effluent from the stormwater treatment system should be monitored for PAHs, PCBs, and arsenic in addition to other NPDES 1200-Z parameters to ensure that the system is operating properly and confirm that stormwater discharging from the site is not adding contaminants to the Willamette River at concentrations that may pose a risk to human health or the environment. If ongoing stormwater monitoring data indicates exceedances of NPDES 1200-Z or other Portland Harbor specific benchmarks, then additional stormwater source control measures/best management practices may need to be implemented.

### Specific Comments

1. Section 2.3, Page 2.4.3 -- The detention volumes for the Outfall 3 and Outfall 4 stormwater treatment systems are listed as 29,462 and 17,085 gallons, respectively, in Section 2.4.3; however, the Stormwater Operations & Maintenance Plan lists the storage as 4,730 and 3,740 cubic feet (35,383 and 27,977 gallons), respectively. It is recommended that this discrepancy in detention volumes be addressed.
2. Section 5.2.2.1, Page 5-7 -- The assumption that the observed groundwater concentrations of chlorinated solvents in monitoring well MW-5 indicates a potential offsite source with the plume migrating onto the site is not supported by the lower concentrations of PCB detected in groundwater at the boring between monitoring well MW-5 and the rail spur (i.e., geoprobes GW 11, GP-108, GP-109, GP-110, and GP-111). The lower concentrations at these locations need to be addressed in the context of the hypothesis that an off-site plume is migrating onsite; otherwise, the hypothesis should be dismissed or modified. It is recommended that this concern be addressed.
3. Section 6.2.9, Page 6-5 -- As stated in Specific Comment 2, PCB concentrations in groundwater collected from the geoprobe borings between monitoring well MW-5 and the rail spur do not support the idea of an offsite upgradient source. While the PCE concentration at monitoring well MW-5 is not the maximum concentration observed at the Southeast Area, the data presented in Tables 5-2 and 5-12 indicated an increasing trend at this monitoring well. As stated in General Comment 1, additional monitoring at monitoring well MW-5 and other monitoring wells at the Southeast Area and Port of Portland Terminal 4 is needed to evaluate the stability of the groundwater plume. It is recommended that this data gap be addressed.
4. Table 6-5 -- The footnote to the table states that values exceeding the 2004 NRWQC 175 g/day consumption rate are in bold; however, many of the groundwater results in the table exceeding this criteria are not indicated as bold (e.g., monitoring wells MW-4, MW-5, and MW-6). It is recommended that the table be modified so that all results exceeding the NRWQC criteria are in bold.
5. Appendix B, Operations Manual for Stormwater Filtration System -- Aside from the minimum once a year removal of sediment from storm drain basins and lines, there is no criteria for when sediment must be removed. The manual should include criteria for what depth of accumulated sediment measured during the monthly inspection will trigger removal of sediment from the catch basin or storm drain line. It is recommended that this omission be addressed.



